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A CASE OF HYDROCEPHALUS IN WHICH DRAINAGE
OF THE VENTRICLES INTO THE SUBDURAL SPACE
WAS ESTABLISHED.*

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As it seems desirable to record any cases in which a new method of treatment is adopted, I have thought it well to bring this one to your notice this afternoon. The method of operating for hydrocephalus employed was suggested by Mr. Watson Cheyne and Dr. Sutherland,† and has been employed by Mr. Watson Cheyne and other surgeons. I may perhaps remind those of you who have read Mr. Watson Cheyne and Dr. Sutherland's paper that the object of the operation is to establish a communication between the distended ventricle and the subdural space, so that the fluid may be readily absorbed by the meningeal veins. I think the record of my case

* Read at the Provincial Meeting of the Society for the Study of Disease in Children, June the 18th, 1904.

† 'Brit. Med. Journ.,' October the 15th, 1898.

proves that such a communication may exist for some considerable time, and yet the hydrocephalus may increase.

The baby, K. H—, aged 7 months, was under my care in the Children's Hospital in 1900. She was born with hydrocephalus, and the head had been enlarging out of proportion to the growth of the infant ever since birth. Between August the 25th and December the 19th it had increased $1\frac{1}{4}$ inches. There was constant nystagmus, and alternating internal strabismus. The limbs were not paralysed. The enlarged head was tense, and all the bones were separate. The circumference of the head was 22 inches. I operated on December the 19th. A flap $\frac{3}{4}$ inch wide at its base was turned down, over the extension of the anterior fontanelle downwards between the right parietal and frontal bones, and the thin membranous skull and dura mater reflected. The brain bulged out as soon as the cranial cavity was opened, and was so tightly pressed against the skull that it was impossible to get any drain between the two, without great risk of passing it into the cerebral substance. I grasped the end of a piece of fine rubber tubing two inches long with Sims' forceps, and pushed them through the cerebral cortex (which was very thin) into the ventricle. After a little fluid had escaped through the tube, and the intra-ventricular pressure thus reduced, I easily inserted the other half of the tube between the dura mater and the cortex. The tube was secured to the dura mater by a fine silk stitch, and the flap of dura mater and membranous skull was then sewn back in place by fine silk sutures. This was done quickly, as until the last stitch was put in, the cerebro-spinal fluid flowed slowly away. It came through the tube and out by the side of it. The baby was wrapped in wool during the operation, and there was no shock. As the result of the leaking of fluid during the operation, his head became quite soft, and the edges of the cranial bones prominent, with a tendency to override. There was some leaking of cerebro-spinal fluid into the dressing during the first twenty-four hours. The wound was healed and the stitches removed on the eleventh day after the operation. The infant up to this date was kept lying on the side of the head opposite to the wound. There were signs at this time that the head was enlarging again, and after this the head steadily increased in size, and six weeks after the operation it measured $1\frac{1}{2}$ inches more than it did before the operation. This increase was slightly greater on the side not operated on. A month later it had increased another half inch. As there was some difference in the rate of progress of the disease on the two sides, and as I thought the rubber tube might have become kinked and failed to act a short time after its insertion, I decided to

repeat the operation on the other side, as Mr. Watson Cheyne did in one of his cases. Mr. Ballance very kindly sent me a specimen of the metal drainage tube he had been using for the operation, and I had a similar one made for use in this case. On March the 2nd I turned down a flap on the left side in an area corresponding to the operation on the right, and exposed the brain in the same way. I inserted one arm of the rectangular metal drainage tube into the ventricle, and then withdrew the fine wire in its lumen. No fluid would flow through it, the lumen was so fine. I therefore inserted a piece of rubber tube, as I had done on the other side, by the side of the metal one, and cerebro-spinal fluid slowly flowed away by the side of it. Both tubes were fixed by fine stitches to the dura mater, and the free ends placed in the subdural space. I thought I had stopped the leakage of the cerebro-spinal fluid by suturing the flap of dura mater and the membranous skull into place, but the leaking went on into the dressing, which had to be changed in twenty-four hours. There was no shock from the operation. During the next few days some leakage continued, and the bones were overriding. Ten days after the operation the wound was found healed except a pin-point aperture, from which cerebro-spinal fluid leaked. The temperature ran up to 105° F. the same evening and the baby died. It is interesting that the high temperature which has, I believe, been fatal, or at any rate been present with a fatal termination, very soon after the operation in some cases, came on in this case on the tenth day after operation. The cause of this pyrexia of death is not clear. It was certainly associated with a continuous leakage of cerebro-spinal fluid.

Post mortem.—On opening the cranium before the cerebro-spinal fluid escaped from the ventricle, the brain was observed to have retracted from the skull to the extent of an inch. There was no meningitis. The rubber drainage-tube inserted at the first operation on the right side was found fixed to the dura mater by the silk stitch; one end was adherent to the dura mater line quite patent, the other lay within the ventricle; it was not kinked, and after removal fluid could be readily syringed through it. By the side of the hole through which it entered the ventricle another opening had formed between the ventricle and the subdural space, one third of an inch in diameter. The edges were quite smooth, and the opening round. It did not present at all the appearance of a tear. From the neighbourhood of the opening a thick band of adhesion an inch in length extended to the dura mater. On the left side the brain was adherent to the scar. Both the rubber and the silver tubes were

in the ventricle, but the other end of the rubber tube had in some way become buried in the brain substance, though it was certainly placed in the subdural space. There were several thin adhesions of pia mater to dura mater over the vertex. The foramen of Munro was much enlarged, so that there was a very fine communication between the ventricles.

As there must be some doubt as to when exactly the hole, one-third of an inch in diameter, formed between the ventricle and the subdural space, I will not refer further to it as a means of communication between the two. But the rubber tube put in on December 19th had certainly kept up such communication for more than two months, and yet during that time the hydrocephalus had steadily increased. There was nothing to account for the slightly greater increase of the left side, for with so large a foramen of Munro the ventricles might be regarded as practically one.

A CASE OF CONGENITAL STRICTURE OF THE OESOPHAGUS.*

BY BERTRAM M. H. ROGERS, M.D.Oxon.,

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CASES of stricture of the oesophagus are so rare that I have thought it worth while to record this one before the Society.

Wm. N—, aged 1 year and 10 months, was sent from Cornwall to the Children's Hospital on April the 1st, 1904. He was a prematurely born child, and was nursed by his mother for three weeks only, after that being fed on milk and patent foods. For the first ten months of his life he was fairly healthy, took his food well, and was only sick a few times, not sufficiently to make his mother anxious about him. But a few weeks before he came under my care he had been frequently sick, bringing up his food unchanged soon after a meal, and mixed with a large quantity of mucus. So severe had the vomiting been that the child had lost weight considerably and the medical man under whose care he was had resorted to rectal feeding. When admitted, the first thing that struck me was the extreme emaciation of the child; he weighed only 16 lbs. 9 oz. He was rickety, though not excessively so, and

* Read at the Provincial Meeting of the Society for the Study of Disease in Children, June the 18th, 1904.

was constantly crying—I believe, from hunger. On examination, the veins in the neck were observed to be very full, swelling up considerably when the child cried, and filling from below. The neck was thin but the lower part seemed full, though no definite enlargement of any organ could be distinctly made out. The lungs were full of mucous rales, and whenever he vomited a large quantity of mucus was expelled. No dulness could be found in the thorax. The temperature was subnormal. Vomiting came on after every meal, and milk given him was, as a rule, uncurdled and neutral to test-paper. To test how long he retained food we fed him every four hours with alternate coloured and uncoloured meals, using methylene blue, fuchsine and chocolate, also having the vomit tested for acidity. We found after several days' observation that most of the food went into the stomach and was absorbed, but he would retain somewhere, either in an œsophageal pouch or in the œsophagus, food for as long as eight hours before returning it. Sometimes the vomit came from the stomach.

The passage of a tube did not give us much help. Several times it was impossible to get beyond a point just behind the upper part of the sternum, on other occasions the tube went into the stomach and returned with an acid fluid on the tip, while often it seemed to hitch near the cardiac end of the œsophagus and coil up on slight pressure. In fact, the passage of the tube helped us very little.

I also tried if I could see a pouch by the X rays, and had the child fed with a biscuit mixed with bismuth carbonate, but got no result.

The child lost weight rapidly and was evidently doing very badly, but I was surprised when on April the 13th the bronchial condition became much worse, there was much stridor, and finally he became cyanosed and died on the 14th.

The specimen which is before you shows that there is a fairly tight stricture about an inch from the lower end of the œsophagus. How it arose is impossible to say, but perhaps the same conditions that produce the pyloric stricture of children may have caused this. None of the causes put forward appear to me to satisfactorily explain why either develop.

The diagnosis lay between a pouch and a stricture, and I was inclined to the former. The former is rare, a stricture almost, if not quite, unrecorded.

SOME OF THE LESS COMMONLY RECOGNISED MANIFESTATIONS OF RHEUMATISM IN CHILDHOOD; WITH REMARKS ON THE TREATMENT OF THIS DISEASE.

By JAMES BURNET, M.A., M.B., M.R.C.P.Edin.,

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HOWEVER obscure may be the pathology of rheumatism, one fact at least has been definitely ascertained, namely, that it is a disease which differs widely in its clinical manifestations as we pass from childhood into adolescence, and again into adult life. We are, perhaps, too apt to suppose that rheumatism is a comparatively simple disease, whereas closer observation tends to prove that it is a great complex, somewhat akin to gout in the variety of its clinical manifestations. This is certainly the case with regard to the rheumatism of childhood. Its hereditary nature has been questioned, but personal experience goes to prove that heredity plays a most important part in its causation as evidenced by the three following cases:

Girl, aged 14. Severe pains in legs and back; heart enlarged, with mitral systolic murmur; had always been nervous; enlarged tonsils; temperature 101° F. Mother suffered from arthritic pains; father was a martyr to rheumatism. Had seven brothers, three of whom had had attacks of acute rheumatism, while two others suffered from some heart affection. Had five sisters, two of whom died of heart disease, while the three still living showed distinct rheumatic tendencies, one being constantly laid up with acute sore throat; a second had had rheumatic fever three times, and the third had chorea at the age of 10.

Man, aged 42. Subacute rheumatism. Paternal grandfather and grandmother died of heart disease, and both were subject to rheumatism. His father was said to be a healthy man, but had frequent attacks of lumbago and sciatica. Of three brothers, one had acute rheumatism at the age of 22, the second had a weak heart, while the third suffered from sciatica. His only sister died of heart disease following on a "wetting" (and therefore indicating in all probability an attack of acute rheumatism).

Boy, aged 10. Acute rheumatism. His mother had always been a rheumatic subject, suffering frequently from lumbago and arthritic pains. The patient's brother had had a severe attack of chorea. His sister had been under my care for acute rheumatism. His maternal grandfather died of heart disease following on rheumatism. Two of his aunts died of heart disease, while his uncle was said to have a "weak heart," and to be constantly laid aside with "pains."

These cases certainly indicate that we dare not altogether ignore the importance of the hereditary factor in the production of rheumatism. But it is not so much of the pathology of rheumatism that we wish now to speak; rather it is our intention to point out some of those clinical manifestations of the disease as seen in children which are not as yet, to our mind at least, sufficiently emphasised by writers on the subject.

In the first place, pharyngitis and tonsillitis deserve to be more frequently regarded as rheumatic than they are at present. Not uncommonly a child is brought to us who is feverish and fretful. It is out of sorts, refusing its food, and is restless and irritable. The temperature is perhaps but slightly raised. Examination of the child reveals no satisfactory cause for its condition. The pharynx, however, is seen to be red and congested, while the tonsils may be slightly enlarged. Now, in some of these cases careful light percussion of the heart shows it to be somewhat dilated; while, after careful cross-questioning, a general soreness may be complained of all over the body. That some at least of these cases are in reality rheumatic is beyond a doubt, for they yield rapidly to anti-rheumatic remedies, as we have proved time and again. The difficulty we have to face is to determine which cases of acute sore throat are rheumatic and which are not. In settling this question the results of treatment afford us a very important aid. Tonsillitis is said to be more common in the rheumatism of adolescents and of adults than in that of children; but we are convinced that pharyngitis in the child should always be looked on suspiciously, the heart carefully examined, and the child kept in bed until all doubts are set at rest as to the real nature of the case.

Pneumonia is probably never looked on as a manifestation of rheumatism; but we have had under our care quite recently a child of six years whose family history was strongly rheumatic, and who, after the pneumonia cleared up, showed unmistakable evidences of chorea. It is quite possible, therefore, that some cases of pneumonia

attributed to "chill" are in reality due to the specific virus of rheumatism. Further clinical observations must, however, be made by diverse workers in order to prove the truth of this assertion. It is certainly a matter deserving more attention than has yet been given to it.

There are those who deny that psoriasis and rheumatism are related, but again personal observations seem to prove that in childhood at all events psoriasis scarcely ever occurs save in rheumatic subjects. One of our most marked cases of psoriasis was that of a little girl who had been under our care on different occasions for acute rheumatism, anæmia, chorea, and purpura. The family in this case were all rheumatic, not one having escaped at some time or other the manifold affections which rheumatism produces. Often on questioning the parents we find that one or other of them is rheumatic, and not infrequently there is a parental history of psoriasis obtainable. In further proof that psoriasis is a rheumatic manifestation, we have found great benefit result from the administration of anti-rheumatic remedies.

Appendicitis is undoubtedly a rheumatic affection in not a few cases. This is a fairly common disease in childhood, though we fear its recognition is often missed in the case of young subjects. Sometimes a child is brought to us complaining of abdominal pain, which passes off under simple treatment, only to recur in a few weeks. It is a safe rule to regard these recurrent attacks of pain, especially if associated with sickness, as appendicial in origin, and to be prepared to find that one of them will eventually prove to be a typical attack of inflammatory mischief in this region. Such has been our experience. Apart altogether from this type of case we have others in which the evidences of appendicitis are clear from the outset, and in some of these also we have been able to make out a distinct rheumatic history. The association of appendicitis and rheumatism is apt to be lost sight of, but the relationship is such an important one that it deserves to receive due attention from the profession generally. Had space permitted we could have detailed the case of a boy who had a pretty sharp attack of appendicitis. His parents were both rheumatic, while his two younger sisters had both suffered from acute sore throat, while one of them had chorea. Nor is this the only case that has come under our notice, for we have notes of three others where the history of rheumatism was quite as distinct.

There is a condition to which I have ventured to give the name of gastro-enteric spasm, in which the child complains of acute gastric pain after a meal and has an urgent call to stool. These cases are

certainly not all of rheumatic origin, but we believe that many of them are. At all events we have found them very often improve under treatment by salicylate of soda when all other remedies had failed.

There is a manifestation of rheumatism which is very apt to be disregarded, or at all events to be looked on as a sign of general debility. We refer to that common condition of childhood, namely pain in the side or in the upper part of the chest. In the former case the pain is very often referred to the loin, and in the latter to the infra-clavicular region, or at all events to the part of the chest above the third rib. The pain is sometimes not very acute and is often most marked when the child is tired out after play. It is usually attributed to debility, and accordingly it is treated by tonics. In many such cases we have found anti-rheumatic remedies give brilliant results. This pain may often be detected in choreic subjects if carefully inquired for, and this fact alone is of considerable significance.

Lastly, we wish to point out that children of rheumatic heredity do not always present any definite manifestation of the disease. They are often, however, found to be extremely nervous and irritable, extremely sensitive, thin and spare, subject to fits of violent temper, and are generally of a restless disposition, constantly on the look-out for some fresh form of amusement. When this nervous restlessness reaches a certain maximum point it becomes associated with muscular movements, which, beginning in slight twitchings, gradually increase until we have a true chorea established. This is the true origin and evolution-history of chorea, which is nothing more save muscular movement superadded to a pre-existing state of nervous unrest. This is the solution of the chorea problem which we ventured on some two years ago, and we see no reason for giving any other solution at the present time.

Now as to the treatment of rheumatism in childhood. A few words must suffice on this important subject. Generally speaking the best results are got from the administration of aspirin or of salicylate of sodium. These must be given in large doses. Children tolerate these remedies better than is generally supposed. To a child of five, 10 grains of either remedy may safely be given every four hours for several days. Another drug in which we have great faith is calomel. It is best given in doses of $\frac{1}{2}$ to 1 grain three times a day. It keeps the gastro-intestinal canal in good working order, a matter of no little moment in rheumatic conditions. The heart requires special attention, and cardiac conditions are best treated

locally by means of an ice-bag, which should be carefully wrapped up in flannel; and, if need be, it can be slung up so that its weight does not press upon the yielding chest-wall of the patient. If convalescence is retarded, the patient should be put on small doses of cod-liver oil, and the administration of anti-rheumatic remedies continued.

ON NIGHT-TERRORS AND SLEEP-WALKING.*

By the Rev. ARTHUR L. HUSSEY, M.A.

Late Headmaster of the Grange School, Folkestone.

I OBSERVE that the paper which comes next on the list to mine is entitled "Schoolmaster and Doctor." After being a schoolmaster for nearly half a century, I may be allowed to express a hope that this title is not meant to imply that in the region of education there is a natural antagonism between the two functionaries. It may be an open question whether the doctor could or could not get on in life without the schoolmaster; but it is certain that the latter, with the heavy responsibility which rests upon his shoulders, could not long go on without a medical adviser within easy reach to help him in his difficulties, so sudden and so grave as they often are.

When one of the secretaries of this Congress invited me to read a paper in the "Section for Child Study," and with some hesitation I consented, I chose as my subject "Night-Terrors and Sleep-Walking," not as laying claim to any scientific knowledge of their physiological bearings, but as having had some intimate and curious acquaintance with them during long years spent amongst young boys.

It may be thought that night-terror, better known amongst adults as "nightmare," and somnambulism or sleep-walking, are practically one and the same thing, or at any rate merely two results of the same temporary condition of the brain. Observation, however, leads to the belief that this is only partially true; for the phenomena attending an attack of night-terror and an attack resulting in somnambulism are sometimes curiously different. One main distinction appears usually to be that in a night-terror the sufferer, though he may be in a state of partial delirium, is as a rule conscious

* Read at the Royal Institute of Public Health Congress, Folkestone (Section for Child Study and School Hygiene), July the 25th, 1904.

of what he is doing, and is able to give an account of it afterwards ; whereas in somnambulism he acts as it were automatically, and afterwards has no recollection, or at most a confused recollection, of what he has done in his sleep. In the one case the child may be impelled by a terror-striking dream, or some other imaginary cause of alarm, to start from his bed ; and when half, but not wholly, awake he will endeavour to fly from his fictitious enemy and will rush for rescue to someone within reach ; but when he has been soothed and the fit is over he will be conscious of having acted foolishly. On the other hand, the phenomena of sleep-walking appear to be nearly allied to the unconscious acts of hypnotism, and often there are abnormal developments similar to those which occur in the case of a hypnotised person whose power of volition is in abeyance. This was well shown in seven lectures on "Somnambulism" delivered at Berlin many years ago by Dr. Arnold Wienholt, a German physician, and afterwards published in English. In these he points out that sleep-walking has for ages been observed and theorised on by Plato, Aristotle, Hippocrates, and others. Those of us who have read the poem of Lucretius, "*De Rerum Natura*," will remember that, in treating of the soul and of dreams, he alludes to the circumstance that in their dreams hounds will give cry and go through the action of running, as though still pursuing their prey ; and he mentions that lap-dogs will act in much the same way ('*Lucretius*,' Book iv, p. 991, etc.). I have never seen a dog actually walking or running in his sleep, though I can conceive it to be quite possible. But I must not go outside my special subject, which deals with the young of mankind.

As a rule it may be assumed that amongst children disturbed sleep is the result of indigestion in some form, proceeding usually from unwholesome or excessive diet, unless there be some deeper origin in the form of disease, actual or impending. At school it may arise from a supply of consolatory sweets sent with mistaken kindness by a sister or some other relation. Frequently I have had little boys sent to me direct from home, and have been warned that they are in the habit of screaming at night, and getting up in a fright, and so on, and yet when they have settled down in their new course of life nothing of the kind has happened. This may be accounted for by the discipline and regular routine of school, which even during sleep exercise a controlling influence, combined with a simpler dietary. Not but what the perversity of boyhood will thwart the best efforts of the schoolmaster and the matron. Thus the pernicious habit of cigarette-smoking, which is so much in evidence

at present, may be forbidden under pains and penalties, and yet (*horresco referens*) I have known small boys manufacture abominable things out of brown paper and even blotting-paper, and steal out to smoke them on the sly, with light hearts laying up for themselves an attack of jaundice or dyspepsia in some form, with terror by night to follow.

In Dr. Goodhart's most useful manual, 'The Diseases of Children' he writes as follows: "Nightmare, or night-terror, is a nervous affection of young children, and is allied to the much rarer phenomenon of sleep-walking." He goes on to describe the two as "sleep disorders, where cerebral under-currents seethe below a placid surface," and he denies that they invariably arise from dyspepsia. He proceeds: "The children in whom night terror occurs are usually quick, excitable, nervous children, and it runs in rheumatic and neurotic families: It would be interesting," he adds, "to follow it up in relation to epilepsy and other nervous disorders."

That there may exist this connection with epilepsy appeared many years ago in a remarkable case with which I was confronted. I was summoned in the night or early morning by a pupil who came in much alarm to tell me that one of the three schoolfellows who slept in the room with him had been trying to strangle another in his bed, with the words, "I'm going to throttle you!" and had been pulled off by the united efforts of the other two. On going to the room, where it was quite light, I found the boy in question, who was barely twelve years old, asleep in his own bed, to which he had returned, and snoring loudly and unhealthily. The youngster had undoubtedly and in grim earnest made the murderous assault of which I had been informed as the result of temporary mania following on an epileptic attack during his sleep. Dr. Bowles, who at that time attended my school, remarked to me, "There's been many a man hung under circumstances like these." The boy in question was removed to a private tutor; he had doubtful health for some time, with inability to study; but all this passed away, and he grew up into a sound and strong man, and now in middle-life he holds an honoured position of trust.

To pass for a moment to the ridiculous, it was in the same house and at about the same period that I was again aroused from my rest, this time by loud shouts of angry defiance and a violent thumping against the door of a room near my own. On summoning up courage and proceeding to the spot, candle in hand, I found an assistant-Master standing fast asleep in his night-garment and engaged in a

fierce encounter with a long bag which hung on a peg inside his door and contained his dirty linen. It has been well remarked, "We are all stark mad in our dreams, though it is only when dreams pursue us into waking hours that we are accounted insane" (Dr. Leonard Guthrie, in 'System of Medicine,' vol. viii, p. 218).

The most remarkable case of acute night-terror which I have known occurred a few years ago, in the person of a pupil of eleven years of age. He is now a young man in full vigour, and he retains to this day a perfect recollection of what took place—so much so that he has revived my own remembrance of the circumstances by writing down for me an epitome of it all.

It was in the height of summer, and in the early hours of the morning that he dreamed he was being pursued. So he jumped out of bed, and after vainly trying to bring to the rescue a companion sleeping near him he ran with bare feet and nothing on but a white night-shirt down to a lavatory on the first floor. Here he bolted the door on the inside and at once got out of the window, which is fully twenty feet from the ground. He endeavoured to grasp a water-pipe in the angle of the wall, but failing to catch hold of it he fell to the ground, fortunately dropping on a soft bush, which to some extent broke his fall. Then he started off along the gravel walk and through a gate leading to a kitchen-garden, where against a wall there was a fig-tree in full foliage, behind the broad leaves of which he crouched for concealment; and fancying that there was something written on one of the leaves, he took it and placed it in the breast of his night-shirt, where, curiously enough, it was found next morning. He seems after this to have returned to his right mind, and to have thought that he had better go back to the house. He tried several doors, which were locked; so at last he climbed through an extremely narrow space over some spiked iron bars outside a window in the basement which happened to be open at the top; he went upstairs, and was heard by other boys running back to his bedroom. Next morning he was stiff and sore, but not materially the worse outwardly. Before his escapade he had complained of head-ache, and had gone early to bed, but had not been at all seriously ill. Next day he had a very high temperature, for which Dr. Henry Lewis found it difficult to account till an attack of follicular tonsillitis supervened, from which with treatment he readily recovered.

It was completely proved that this boy's adventures were not imaginary nor invented; for everything which he had stated was borne out, down to the bush on which he fell, and which retained his impression; the fig-tree, with its leaves torn off and disordered;

and the lavatory door, which was found to be bolted from the inside.

This, then, may be considered a typical, though an extreme, instance of a night-terror, in which the victim had lost his power of reason and self-control, yet, notwithstanding this, acted consciously, and afterwards remembered what had occurred.

I could describe in detail other cases, but my time is limited, and it might be tedious. There was one in which a boy rushed down in the night to the schoolroom, and slammed the lids of the desks up and down, probably with the idea of frightening away an imaginary enemy; and then he ran upstairs to the matron's bedroom and called to her "Save me! Save me!" In another instance a boy for no conceivable reason went in his sleep to a neighbouring dormitory and ejected the rightful tenant from one of the beds, into which he got and buried himself, head and all, under the clothes. That, however, was rather a case of sleep-walking; for after being led back, still asleep, to his own dormitory and bed, he recollected nothing of the freak next day, except that in a hazy way he imagined that for some reason he had been made to get out of bed.

I am inclined to believe that somnambulism proper is less rare than Dr. Goodhart supposes amongst children. It is an interesting question whether the eyes of a sleep-walker are more usually open or shut. In my own experience they have been open; and in the well-known scene in "Macbeth" (Act V, Scene 1) where Lady Macbeth, tormented by her guilty conscience, walks in her sleep, the "Doctor of Physic" says to the woman in waiting, who, along with him, was watching, "You see, her eyes are open"; and she replies "Ay, but their sense is shut." Here, as usual, Shakspeare is true to nature. Not but what somnambulists are recorded frequently to have their eyes closed, and, as in hypnotism, to be able to dispense with their use and avoid danger.

Once I had been sitting up late in my study, which had two doors, and through one of them leading from the schoolroom there suddenly appeared a small figure clothed in white, and advancing towards me with noiseless step. He gazed at me with eyes wide open and dilated pupils, and merely said "Oh, Sir!" I am sceptical about ghosts, but I confess it was a little weird and startling. However, I took the child by one hand and led him through the other door up the front stairs and back to his room. Neither of us spoke, but when we got there the door of the room was seen to be wide open, for he himself had left it so on coming out. He started back, and said in a low but alarmed voice: "There's someone in there!" I said something to

reassure him, and we went in ; the other boys were sleeping soundly, he did not wake, I tucked him into bed, and so the incident ended. Next morning the whole occurrence was a blank to his mind.

The freaks of somnambulism are so varied that they lend themselves only too readily to fiction. Many will remember "the Spectre of Tappington" in the 'Ingoldsby Legends,' where, as the tale goes, a sleep-walker used to bury his nether garments at night in the garden and dream that a spectre had appropriated them. This amusing but fictitious story can be almost paralleled by a true one. In one of the school bedrooms, where, according to custom, the water in the hand-basins was poured out over-night, it was observed each morning that one of them had been used, soap, towel, and all, no one knew by whom. So frequently did this occur that a rumour got about that a ghost of cleanly disposition was accustomed to enter the room and perform his ablutions while the boys were asleep. At last it was discovered that one of them, aged about ten, used to rise in his sleep and wash his hands. He was a child of tidy habits, and probably it had been carefully instilled into him that it is not nice to get between the sheets with dirty hands.

In conclusion, I will say that I have never traced a case of either night-terror or sleep-walking to over-study and pressure on the part of teachers. Such a cause undoubtedly may exist ; but it is, as I think, too often assumed by physicians and others as a matter of course.

It is but a truism to say that the health of the young, their moral health and their physical health (and the two go strangely in union), involves a serious responsibility to all who are entrusted with it ; and no one who knows what the responsibility is will ever treat the subject lightly. I can only trust that what I have put together on one detail of it will not have been considered beneath the notice of this section of the Congress.

Editorial.

DELAYED CHLOROFORM POISONING.

THE 'Scottish Medical and Surgical Journal' for August, 1904, contains an elaborate and very valuable article on this subject, which hitherto has received but scant attention in this country.

The article, which is by Mr. Harold Stiles and Dr. Stuart McDonald, of Edinburgh, was originally communicated to the Society for the Study of Disease in Children on May the 6th of this year, and appeared in the June number of the 'British Journal of Children's Diseases,' page 262. It contains a full account of all existing foreign literature concerning the supposed fatal after-effects of chloroform, together with reports of three cases in which death seemed attributable to this cause, and records of experiments made upon animals in order to determine the effects of prolonged chloroform anæsthesia. These experiments amply confirm the results of similar investigations made by Nothnagel (1866), Ungar and Junkers (1883), Strassmann and Ostertag (1889), Bandler (1896), Heintz (1896), Shenk (1898), and Poroschin (1902). They prove beyond doubt that chloroform is an intense protoplasmic poison capable of producing changes in the organs sufficient to interfere seriously with their function, and that such changes are of a fatty nature, involving especially the liver, kidneys, and heart, and probably other parts.

Chloroform, whether injected subcutaneously or introduced into the stomachs of animals or given by inhalation, gives rise to like effects. In some cases the animals were killed after undergoing chloroform narcosis for varying periods; in others they died spontaneously within a day or two after recovering with apparent completeness from the immediate effects of the anæsthetic. In the latter case the animal seemed well and lively, and ate freely, for 24 to 36 hours after recovering from intoxication, then became dull and apathetic, ceased to move or feed, and died.

It is important to note that similar fatal results did not follow the administration of ether. Shenk, however, showed that ether, like chloroform, produces fatty changes in organs, though to a far less extent than chloroform.

With regard to analogous effects of chloroform inhalation on human beings, Casper, in 1850, was the first to direct attention to dangerous after-effects of chloroform. He spoke of a condition of chronic chloroform poisoning lasting hours, days, and even weeks after its inhalation, and mentioned the case of a woman who died with mainly cerebral symptoms nine days after amputation of the leg.

Langenbeck in the same year attributed a death, seventeen hours after operation to after-action of chloroform. In this case an extremely fatty liver was found after death.

In 1890 Thiem and Fischer published the case of a man who died four days after an operation on the knee-joint for removal of extravasated blood. At the post mortem, fatty infiltration and degeneration of the liver were found. The kidneys were normal.

In the following year Bastanielli reported three cases in which death occurred from three to ten days after chloroform narcosis. The chief symptoms were extreme restlessness, severe vomiting, cerebral excitement, followed by collapse and death. Jaundice occurred in one of the cases. The post-mortem examination revealed intense fatty degeneration of the liver, and to a less extent of the kidneys and heart. There were also subserous hæmorrhages.

Fraenkel in 1892 investigated five cases in which death occurred from forty hours to twenty days after operations under chloroform. He was the first to make a microscopical examination of the organs, and he discovered fatty changes in the heart, liver, kidneys, voluntary muscles, and in the ascending aorta, which he attributed to the specific action of chloroform.

In this country, Symonds, of Oxford, in 1860 suggested that chloroform was dangerous to the subjects of fatty liver.

In 1894 Leonard Guthrie, in a paper entitled "On some Fatal After-Effects of Chloroform in Children," reported nine cases in which he attributed death to the after-effects of chloroform, and one in which recovery took place after symptoms of great gravity had occurred.

In five out of eight in which post-mortem examinations were made he found extensive fatty changes in the liver. He concluded (1) that death in these cases was due to auto-intoxication; (2) that the fatty condition of the liver, and therefore functional disturbance of that organ, existed before the operations, and (3) that chloroform and operation shock combined aggravated the fatty condition already present and thus loaded the system with toxic alkaloids which the kidneys were unable to eliminate.

These views were not accepted, it being held that the deaths were attributable to carbolic acid or fat embolism, and not to chloroform at all.

In 1903 Guthrie published a second paper in support of his thesis. Its title, "On the Fatal Effects of Chloroform on Children suffering from a Peculiar Condition of Fatty Liver," differed from that of his first paper in order to emphasise his contention that the liver is already fatty before the chloroform is administered, and that the latter merely acts as the "last straw."

He held that his second series of four cases seemed to prove that neither carbolic acid poisoning nor fat embolism would account for these fatalities; that the severity of the operation has little, if anything, to do with the cause of death; and that the only pathological condition commonly found after death is a peculiarly intense degeneration or fatty infiltration of the liver; whilst the only other circumstance common to all cases was that chloroform had been administered some hours or days before death. He did not deny that similar changes to those met with in the liver were found in other organs, but believed that the hepatic condition was of paramount importance. He thought that the liver was, owing to pre-existent fattiness, on the brink of functional inadequacy, and that chloroform aggravated the condition, and so lowered hepatic functions that ptomaines and toxins escaped into the general circulation; whilst chloroform by its specific action on the kidneys prevented elimination of such toxins in the urine and was thus, again, immediately concerned in the causation of death.

In the interval of ten years which elapsed between the appearance of these two papers a large amount of literature had been published and cases recorded, in which death was attributed to delayed chloroform poisoning, by foreign observers. Amongst those mentioned by Mr. Stiles and Dr. McDonald are Ambrosius, Steintal, Ajello, Eisendrath, Bandler, Marthen, Heintz, Salen and Wallace, Dorner, Cohn, Ballin, Mintz, and Foerster.

The symptoms and clinical course generally noted in cases attributed to delayed chloroform poisoning are:—after a period of twelve hours or so, in which the patient appears to have recovered completely from intoxication produced by the anæsthetic,—profuse and repeated vomiting, the vomit eventually resembling the dregs of beef-tea, restlessness, excitement, delirium, alternating with periods of apathy, jaundice (occasionally), and unconsciousness deepening to

coma. Death usually occurs on or about the fifth day, but sometimes later, from cardiac or respiratory failure, gradual or sudden. Sometimes death takes place within twelve to forty-eight hours. Pyrexia is not a marked feature, but the temperature commonly shows irregular rises and falls, and is above normal at the time of death. In a few instances there is hyperpyrexia. In these the stage of excitement and delirium is, as a rule, slightly marked or absent, and death is more speedy than is customary.

Albuminuria and the presence of casts in the urine are common, although the urine may have been normal before the operations were performed.

Mr. Stiles and Dr. McDonald discuss at length the various possible explanations of these events.

In three of their cases they were able to exclude fat embolism, antiseptics, and sepsis as being concerned in the causation of death. These cases were all typical as regards symptoms and post-mortem findings of those which have been attributed to delayed chloroform poisoning. On the other hand, they bring forward a fourth case in which similar symptoms and pathological appearances are attributed to sepsis and not chloroform.

This was the case of a child who died eight days after operation for perityphlitis, from gangrenous inflammation of the œsophagus. They therefore hold that the changes produced by chloroform and sepsis are identical. Yet it may be urged that the fatty changes might even here have been due to chloroform, considering that this anæsthetic was used at the time of operation.

On the other hand, the unusually long period (eight days) which elapsed before death suggests that sepsis and not chloroform destroyed life. Had it not been for the gangrene of the œsophagus which ensued, recovery from the effects of chloroform might have occurred.

As the authors point out, most surgeons are familiar with cases which cause great anxiety forty-eight hours or so after operation. The symptoms are similar to those already described, but the surgeon usually suspects sepsis and not chloroform to be their cause. It is quite possible that these are mild cases of acute fatty degeneration produced by chloroform which end in recovery. One can hardly

doubt that were such profound fatty changes as are discovered in fatal cases invariable after inhalation of chloroform, death in all cases would be inevitable.

Why, then, are fatalities of this kind comparatively rare? The duration of the anæsthesia, and the amount of chloroform expended, do not seem to influence the course of events. In some fatal cases recorded, the whole period of anæsthesia did not exceed a quarter of an hour or so, and the chloroform evaporated was not more than a drachm.

Is it possible that such widespread changes as are found in fatal cases can be produced by such small amounts of the anæsthetic and in so short a space of time? Guthrie insists that this is improbable, and therefore presumes that fatty liver is pre-existent.

On the other hand, Lengemann* found that the amount of chloroform given to animals made little difference in the extent of fatty degeneration produced in different organs. He decided that whilst a certain amount of chloroform must be in the circulation before fatty degeneration can be produced, yet this quantity was always present when sufficient chloroform had been given to produce narcosis.

Heintz maintains that *idiosyncrasy* plays an important part in determining the effects of chloroform upon individuals. Others, including Mr. Stiles and Dr. McDonald, advance idiosyncrasy as a possible explanation of the untoward effects of chloroform.

Yet an appeal to idiosyncrasy is the refuge of the destitute. It suggests the verdict of a coroner's jury, in the absence of post-mortem examination—"Died by the visitation of God." We would wish to know on what the idiosyncrasy depends. Further evidence is needed before the view that the liver in these cases is in a fatty condition before operation can be accepted. In Guthrie's second paper he suggested that a fatty liver might be suspected when a history was obtained of repeated so-called "bilious attacks," or "acute gastric catarrh," associated with vomiting, fever, delirium, and night terrors, diarrhœa, or constipation, epigastric pain and tenderness, and sometimes slight jaundice, together with the presence of the sweet and characteristic odour of acetone in the breath.

In such cases acetonuria is also present, and it is worthy of note

* 'Beitrage zur Klin. Chir.,' 1900, Bd. xxvii, heft 3, p. 805.

that many observers have detected a great increase of acetone in the urine after chloroform anæsthesia, whilst the modern view is that acetone is not derived from proteids or carbohydrates, but from fat. It may not be unreasonable to suppose that the fat in such cases is chiefly situated in the liver.

Mr. Stiles and Dr. McDonald draw attention to the resemblance between the symptoms of delayed chloroform poisoning and those of diabetic coma, now generally held to be due to the production of acido-acetic and other acids, which are the poisonous precursors of acetone, which in itself appears to be harmless. They regard the analogy between diabetic coma and delayed chloroform poisoning as a working hypothesis, and say "it seems reasonable to suppose that the blood may contain some of the poisonous precursors of acetone, and that in certain cases these are produced in so great an amount as to determine a condition analogous to diabetic coma."

Considerable support is given to these views in a recent paper, "Aciduria (Acetonuria) Associated with Death after Anæsthesia," by E. Brackett, O. S. Stone, and H. C. Low.* Thirteen patients, all children, were treated at the Boston Children's Hospital, within a comparatively short period. Four died and nine recovered.

In seven cases the symptoms began about twelve hours after operation. In six cases no operation preceded. Three of the deaths were in operation cases.

The symptoms were practically identical with those described as due to delayed chloroform poisoning, with the addition of the presence of acetone in the breath and urine.

The only marked anatomical lesion found after death was extreme fatty degeneration of the liver and muscles. In eight of the most severe cases there was either paralysis or some disability, resulting in the degeneration and atrophy of an extensive part of the musculature.

They regard these cases as giving distinct evidence of acute intoxication due in some way to a disturbance of metabolism, and having among its peculiar manifestations the presence of acetone and its allied compounds in the excreta. They apparently occur under many conditions, but are particularly fatal when following the administration of an anæsthetic.

* 'Boston Med. and Surg. J.,' July the 7th, 1904.

The paper is of additional importance because we learn from it that the anæsthetic used in all cases was ether and not chloroform. Hitherto we believe that no cases of this sort have been reported after ether anæsthesia, and as Shenk's experiments go to prove that the effects of ether in the producing fatty changes are not to be compared with those of chloroform, some writers have urged that chloroform should be abandoned in favour of ether.

But it seems evident from the experience of Drs. Brackett, Stone, and Low that the change would not be for the better.

Although these authors speak of "aciduria" as particularly fatal when following the administration of an anæsthetic, they acquit ether of any prominent share in producing it, on the grounds that in one case ether had been administered three years previously without ill effect, and that in a second case, after acetone had disappeared from the urine for a few days, ether was administered without any reappearance of acetone, and without harmful consequences. They conclude that "it can be stated positively that the symptoms are not the result of anæsthesia, operation, or shock, unless in the presence of certain underlying causes still undetermined."

They incline to think that such underlying causes may be a highly-strung nervous temperament, confinement, changed habits and diet in hospital, homesickness, and dread of operation, which may lead to changes in metabolism hitherto not taken into account.

With regard to these views it may be mentioned that in not a few of the deaths attributed to delayed chloroform poisoning, chloroform had been previously administered without ill effect. The ill results have been ascribed to repeating the inhalation of chloroform before the fatty changes produced by its previous administration have passed off.

In the case of ether, however, as already mentioned, there is no evidence that its administration gives rise to any extensive fatty changes comparable with those produced by chloroform. Therefore the fatty degeneration in ether cases must have been present beforehand.

The emotional conditions mentioned do not seem to have been prominent in many of the cases of death after chloroform.

Admitting that both in the case of ether and of chloroform, acidæmia may have a share in causing death, we must yet remember that cases of acetonuria are by no means fatal unless occurring in conjunction with other morbid conditions. Acetonuria is found in diabetes, starvation, malignant cachexia, peritonitis, and other abdominal disorders, sepsis, pneumonia, after poisoning by phloridzin and morphia, and, as we have seen, after general anæsthesia, whether induced by ether or chloroform.

Even in the first case described by Brackett, Stone, and Low, in which although no anæsthetic was administered, yet the child died with typical symptoms of delayed chloroform poisoning, and typical fatty changes were found after death, a double intussusception of the jejunum was also discovered, and it is more probable that this, rather than aciduria, accounted for the fatality.

We are not acquainted with any cases exhibiting symptoms of delayed chloroform poisoning which have proved fatal in healthy children unless that anæsthetic or ether has been given, or unless some obvious complication or morbid condition has also been present.

Hence it seems unlikely that in the large number of cases which have died with the symptoms mentioned and the pathological findings described, the anæsthetic can be absolved of all participation in the fatal result.

Evidence at present is insufficient to prove that the administration of an anæsthetic, whether chloroform or ether, is attended by peculiar danger in the presence of pre-existing fatty metamorphosis of organs in general and of the liver in particular. We wait for further information.

It is possible that the frequency of these fatalities has been underrated, and we would appeal to surgeons to publish any unrecorded instances in the hope that light may be thrown on events at present shrouded in mystery. We must again express our thanks to Mr. Harold Stiles and Dr. McDonald for their valuable contribution to the literature of the subject.

Excerpta Puerilia.

The Children's Section at the British Medical Association at Oxford—Where was it?—Inquiries have reached us from various quarters asking as to the whereabouts of the Section for Children's Diseases at Oxford in July last. There was not one; that is why our correspondents could not locate it. The omission was made additionally striking in the face of certain novelties in the shape of Dental and Electro-therapeutic Sections. Other inquirers asked why there was not one; and to these, not being Bond Street palmists or crystal-gazers, we must reply that we do not know. But there have been various solutions of the problem which has been set us to solve, some of which have been given by our correspondents, and they can be accepted or not as fancy dictates.

It has been suggested that it was owing to lack of accommodation that the executive had to omit the Children's Section, because the anatomical and physiological sections, which heretofore have worked harmoniously together, desired to be dissociated. The Children's Section was held in an attic last year at Swansea, and hospitable Oxford might on this occasion have found an unoccupied cellar for it as a pleasing contrast.

Then it has been whispered that each professor had a department of his own to run and show off, and if the Executive had not countenanced this the "oaks" of the laboratory doors would have been "sporting," so delightfully human are even guileless scientists. As the University of Oxford does not recognise childhood in its medical curriculum—at least the first childhood—the absence of a Children's Section can be accounted for in this way. So say others. With the recent appointment of Dr. William Osler as Regius Professor of Medicine it is anticipated there will be a recognition of modern views on the subject.

Next it has been suggested that the very popular and hard-working Society for the Study of Disease in Children has ruined the chances of a successful section at the British Medical Association, especially in view of the fact that the Provincial Meetings of the Children's Society, which are so well attended, are annually held within a few weeks of the British Medical Association's gathering. We do not, however, think that this need weigh with the Executive, and we feel sure the Children's Society will willingly lend their aid if they be approached in the matter.

Another suggestion is that the Executive did not receive any inquiries about a Children's Section; the fact of there not being one was lost in the mass of business that had to be transacted. This, of course, may be true, but it does not seem very feasible, for the Executive would not be likely to allow so important a section to escape their notice in these days when the totally unnecessary infantile mortality and physical degeneracy in our midst have been thrust upon their notice by the Press. Moreover, there has been shown a medical demand—and a strong medical demand—in this country for the study of children's diseases, as evidenced by the foundation of the Society for the Study of Disease in Children, by its well-attended meetings, and by the valuable volumes of 'Reports' annually issued by it. The existence of this Society is now known all over the civilised world, and its work will be found quoted in current medical literature.

That the study of disease in children in this country, in spite of grandmotherly opposition, will flourish and grow apace and be productive of valuable work we have no doubt, and we hope that the Executive of the British Medical Association will give practical effect to a very strong demand on the part of a not unimportant section of their members that in the future the Children's Section shall not be omitted. Later on, in the fulness of time, we hope that children's diseases will be taught in this country and will not be ignored as is the case at present—a state of affairs which is not creditable to that section of Great Britain which controls medical education.

The Royal Institute of Public Health; Congress at Folkestone (Section for Child Study and School Hygiene).—The business of the section was resumed on Monday, July the 25th, the President (Sir GEORGE KEKEWICH, K.C.B.) in the chair.

Dr. PATRICK WATSON WILLIAMS (Bristol) communicated a paper on "The Importance of Normal Respiration in Childhood as a Factor in Physical and Mental Development." He said that though it was recognised "one must breathe to live," it was not generally appreciated that a corresponding proportion of good air was necessary for the oxidation and utilisation of what is commonly called food. Oxidation of the carbohydrates and other nutritive elements brought to the tissues from the alimentary canal was the essential vital process subserved by respiration, and this was conveniently termed *internal respiration*. The act of breathing, or *external respiration*, provided for this assumption of oxygen by the tissues, and also for the egress of the essential product of oxidation, carbonic acid gas.

A frequent important factor of defective respiration was nasal obstruction, and in the production of nasal obstruction adenoid growths played a prominent part, more often by associated catarrh than by actual nasal obstruction. Among other causes were malformations and hypertrophy of the nasal mucous membrane. Children were sometimes operated upon for trifling adenoids, and the real cause of obstruction was overlooked. The importance of respiratory exercises after operation was dwelt upon, and the necessity for operation in the presence of definite lesions in the nose was advanced. Children do not "grow out" of such conditions. The respiratory centres were normally stimulated day and night by the passage of air through the upper part of the nose. Further, the air was deprived of all organisms in its passage through the nose; it was sterilised, it was warmed, it was moistened. Mouth-breathers were liable to throat and lung troubles, and even gastric disturbances, and their liability to tuberculous and other infections was greatly enhanced. Dr. Williams drew a word-picture of the well-recognised characteristic appearance and physical conditions of mouth-breathers—the chest deformity brought about by the absence of proper nasal stimuli to the respiratory centres; associated weakness of circulation in proportion to habitual respiratory defects; and defective activity from poverty of oxygenation of the higher nerve centres associated with impaired mental activity and general lowering of vitality. He drew attention to the care displayed by parents in the selection of food and drink for their children, and to their want of it in permitting them to breathe air contaminated by respiratory excreta owing to lack of obvious precautions. He impressed upon the meeting the necessity for taking a wide view and realising that there were many children whose discoverable defects were less pronounced, and yet whose mental and bodily development was retarded from defective respiration. For these children he would advocate cold bathing, physiological drill, comprising respiratory exercises, and other hygienic measures. When respiration is persistently inhibited from any cause whatsoever the tissues become accustomed to the abnormal conditions of life. So it is with many children. He strongly advocated more and better air for these partially asphyxiated children. Good air was as necessary to a child's growth and well-being and mental development as good feeding, and a sufficiency of good air could not be obtained by the mouth-breather. He considered it highly desirable to teach the children the principles of hygiene in schools and the parents the principles of hygiene at home. In physical drill it was necessary to

bring the respiratory muscles into play, and the teacher should be endowed with sufficient knowledge to recognise the cases where special exercises or treatment were necessary if the children were to know the fulness of life.

Mr. WILLIAM HALL (Headingly) thought the throat and nose troubles of the present day were due to the fact that children were not given "bone-making food." Every child was born with a Gothic palate and if breast-fed the palate became flattened out and the infant could breathe through its nose; but if hand-reared it became a mouth-breather. He thought almost all mouth-breathers were rickety. In his experience Jewish children suffered much less from nasal troubles than Gentile children, and that was due to the fact that the former were breast-fed. He asserted that there was not one Gothic palate in the many hundred skulls in the Hunterian Museum of the College of Surgeons, and that there were thousands of arched palates with contracted tooth space walking about London to-day. His remedy was, feed the children.

Mr. J. F. BLACKER (Brighton) thought Dr. Williams would be pleased to hear that in the new scheme of physical exercises nose breathing was taught. He said it was impossible to secure education, physical training, and proper breathing unless the child be well fed. In the poorer districts hunger prevailed and a state of almost chronic starvation was not uncommon.

Mr. JOSEPH TRENNER said it was the pride of Jewish mothers to personally nurse their own children, and it was considered a reproach amongst Jewesses when such was not done.

Dr. WILD (Bootle) asserted that nasal obstruction producing pigeon-breast, particularly in rickety children, was frequently improved, and that in a short time, in those who were fortunate enough to be committed to Day Industrial and Reformatory Schools. He thought in many instances operations were unnecessarily performed for the removal of adenoids.

Dr. WATSON WILLIAMS, in reply, paid a tribute to Mr. Hall's splendid work in the feeding of poor children, but he disagreed with his views as to the causation of the vaulted palate. That he thought to be due to nasal obstruction and not to improper feeding. Adenoid growths and nasal obstructions were particularly common in Jewish children. The deformities of the chest due to rickets were different from those characteristic of nasal defects.

Dr. F. J. POYNTON read a paper on "The Influence of School Life upon Rheumatic Children." In his introduction he emphasised the importance of the thoroughly well and long ago recognised fact that

rheumatic fever was not a disease of the joints only, but that in children especially it was a disease with many and various manifestations. He said when the influence of school life upon rheumatic children was considered, it presented itself under two aspects: firstly the influence of school life upon a child of rheumatic tendency, and secondly, the influence of school life upon children suffering from the manifestations of rheumatic fever. Children who were of rheumatic stock, or who had suffered from an attack of rheumatic fever at some previous date, were very frequently highly emotional and nervous. Such children were liable to get quite out of hand at home, and for them the discipline of a well-conducted school was often most beneficial, and brought about a distinct improvement in their general health. Where, however, active rheumatism developed, school life was injurious to them. At first sight it might seem very unlikely that a child suffering from rheumatic fever could attend school, yet so insidious was the disease that among poor children this occurred repeatedly. One manifestation was of especial importance in connection with school life, and this was chorea, or St. Vitus's dance. He thought that it would be well if it were generally known that this condition was nearly always rheumatic in origin, and not primarily nervous. He doubted whether the general public had any conception either of the frequency of chorea or rheumatic fever among the children of the poor in large towns. School work of all kind was injurious to the condition of chorea in the active phases. The onset of chorea was generally gradual—firstly, headache and general failure in health, then emotional disturbances, and lastly disordered movements. Further, chorea was a condition of the very greatest importance because it was a condition not difficult to recognise even by the unprofessional observer. The value of this fact was concerned with the occurrence of heart chorea; both it and heart disease were manifestations of rheumatic fever, and they frequently both occurred in the same child. Heart disease was very common among poor children, and a far more serious matter than chorea, yet its symptoms were often very slight at this early age and so could be easily overlooked. Chorea, then, became a most valuable warning of probable heart disease. At the present time the only likely hope in the treatment of rheumatic heart disease in the young lay in prevention. Palliative treatment there was, but curative none, and so it was all-important to discover these cases early, and the general recognition of chorea would aid and assist this early diagnosis. Rheumatic fever often commenced with a sore throat, and it was most probable that the

infective agent gained access to the system in this way. This had its practical interpretation in the avoidance of ill-ventilated, overheated schoolrooms. He urged the study of rheumatic fever and all its manifestations as an infective process, and not as a disease which resulted solely from diet.

Mr. CHARLES McCORMACK (Bootle) drew attention to the importance of "growing pains" in children, a condition which was very frequently accompanied or followed by profound heart disease.

Dr. WATSON WILLIAMS (Bristol) said there was no room to doubt that a large proportion of cases of tonsillitis were rheumatic (that was well known to the medical profession, and had been pointed out by many independent observers), and that in many instances of systemic rheumatism the upper respiratory tract afforded the portal of entry of the invading diplococcus. He particularly directed attention to the absurdity of mothers having to produce medical certificates that their choreic children were unfit for school. School inspectors ought to be instructed that even slight symptoms of St. Vitus's dance were absolute contra-indications for school attendance.

Dr. EDMUND HOBHOUSE (Brighton) said there was one point on which he could not agree with the reader of the paper. He believed that a large number of cases of relapsing chorea were caused by too early return to school. No child should return to school until all active symptoms of chorea had disappeared.

Dr. POYNTON, in his reply, concurred with the remarks of the speakers.

Mr. W. BERESFORD KINGSFORD, D.P.H., read a paper on "The Inclusion of Physiology in the Curriculum of Elementary Schools." He said in considering the advisability of teaching physiology in elementary schools the previous question of preliminary preparation had to be taken into account. The value of an elementary education in physiology largely depended on that of the needful preparation in physics and chemistry, while the value of some education in these more elementary subjects was greatly enhanced when they had an objective in physiology. Physiology contributed to the preservation of the State, and hygiene was social physiology. He insisted upon the pressing need for a knowledge of hygiene, not confined to a few officials but diffused among all ranks of the people. A good citizen sought his own welfare and that of his family and the community, all of which was largely a matter of physiology. He thought that hygiene or applied physiology for its proper understanding required first the study of simple physiology. Thus to understand ventilation required a knowledge of respiration, which in

its turn necessitated an acquaintance with physics and chemistry. It would be far better to educate the people than to trust to the visits of inspectors, who were apt to neglect their duties, to compel the carrying out of sanitary ordinations. The elements of ventilation, of drainage, and of some of the most important subjects included under "hygiene" could soon be learnt by those who were prepared with some little knowledge of elementary physiology, chemistry, and physics. He thought it was advisable to give some little school time to these preliminary subjects. Ignorance of most of the known laws of life necessitated the employment of a large army of inspectors, and by reducing their number the national wealth could be increased. He considered that the study of physiology would develop the mind and that well-trained minds were a national asset.

Sir HUGH BEEVOR said that the forms of teaching had yet to be elaborated, and the commencement that had been made in the teaching elder girls the care of infants was a good foundation to build upon.

Dr. PORTER PARKINSON agreed with Mr. Kingsford as to the value of physiological knowledge, but he believed that the teaching of physiology to children of the age at the Board Schools would not be attended by any practical benefit, as the previous training necessary to the accumulation of physiological knowledge could not have been acquired to a sufficient extent.

Mr. J. F. BLACKER (Brighton) said physiology had been taught in the schools, but in his opinion, and for many reasons, it had not been a success.

Mr. CHARLES McCORMACK (Bootle) said that Bootle had already adopted the suggestion. The elements of physiology and hygiene were taught to the head teachers, who in turn instructed the senior pupils.

The Rev. ARTHUR L. HUSSEY, M.A. (Folkestone), read a paper on "Night-Terrors and Sleep-Walking." Mr. Hussey said that during the long years he had been a schoolmaster he had experienced some intimate and curious acquaintance with these conditions amongst young boys. One main distinction between the two conditions was that the sufferer from night-terror was conscious of what he was doing and was able to give an account of himself afterwards, whereas the somnambulist acted automatically and had no recollection, or at most a confused one, of what he had done in his sleep. In children, as a rule, disturbed sleep was the result of indigestion. The surreptitious cigarette might induce the condition. He narrated what might have been a tragic instance in a boy in his own experience which suggested the relationship of the disorder to epilepsy. He was inclined to believe that somnambulism proper was

less rare than is supposed to be the case. In his experience the eyes of the sleep-walker were open, though, of course, many examples had been recorded where the reverse was the case. He had never traced a case of either night-terror or sleep-walking to over-study and pressure on the part of the teachers. He thought this as a cause was too often assumed by physicians and others as a matter of course.

Dr. POYNTON said he thought it was generally agreed that some alimentary disturbance was the most usual cause. The vivid imagination of some nervous and rheumatic children he considered causative apart from digestive disturbances.

Dr. PORTER PARKINSON said it had been pointed out by Dr. Leonard Guthrie that in some cases consciousness during a recollection of the night-terrors was lost while in others it was retained, also that some cases were undoubtedly akin to epilepsy. Impediments to the proper oxygenation of the blood acted as exciting causes.

Dr. EDMUND HOBHOUSE (Brighton) read a paper entitled "School-master and Doctor." He said the object of his paper was to show how the modern school is moulded by the dicta of medical science, and will be even more so as judged by the programme of this section. Perhaps in the future schoolmasters will have to be doctors, or doctors schoolmasters, only the burden of responsibility would be too great. Education and sanitary science have developed side by side and become entwined. Great changes have taken place in the last thirty years, affecting not only the comparatively small numbers in boarding schools but the large numbers in national schools. Every educational authority and every school should have its own doctor, whose advice should be final as regards questions of general health, infection, etc. In national schools the school officer should be closely associated with the medical officer of health, his department in large towns being a sub-department of the health office. It was important that it should be so for the sake of economy, and also for training a body of men skilled in school hygiene. The questions which arise between schoolmaster and doctor have ultimately to be settled by an appeal to medical knowledge. Dr. Hobhouse thought that : (1) The present age in primary schools is far too low. (2) The length of hours incapacitated the brains of young children for prolonged attention, inattention being a psychophysical, not a moral, defect in many cases. (3) Starving children cannot learn. Improvement in the food of boarding schools is necessary. Alcohol is not only unnecessary but undesirable. The intervals between meals should

not be too long, and their duration not too short. (4) The ventilation of classrooms and bedrooms is often inadequate. The standard for primary schools is inadequate. Artificial systems of ventilation are bad. Rooms must be warmed in winter. (5) The lighting and the position and construction of desks are most important. (6) The necessity of medical supervision of physical education and exercise is important, and the elimination of the unfit is most desirable. The value of singing, and of breathing properly, should be taught. It is desirable to make a complete physical examination of all pupils at some time in school life. It is important there should be special schools for the physically and mentally unfit, centres being wanted in rural districts for the smaller educational authorities, to which a number would contribute. It is necessary that the teachers in elementary hygiene should be properly instructed. Dr. Hobhouse was of opinion that medical supervision does not mean an increase of luxury, but the ordering of school life on rational principles in accordance with the sanitary laws which science has established.

The Rev. ARTHUR L. HUSSEY, M.A. (Folkestone), thought that the doctor was too prone to snub the schoolmaster as though he were a novice, though he must admit that the doctor was most necessary and most valuable to every schoolmaster.

Mr. CHARLES JELF, M.A. (Folkestone), emphasised the immense importance and comfort the doctor was to the schoolmaster. He had not yet presumed to dispute the doctor's dictum, and he thought it would be many years before he ventured to do so.

Dr. HOBHOUSE, in reply, said that he did not intend to convey the idea that the doctor should be autocratic, but that the principles of medical science should be paramount. The schoolmaster's opinion should be treated with the greatest possible respect, and that their observations could be most useful was shown by Mr. Hussey's valuable paper. He was of opinion that a certain number of cases of sleep-walking and talking were kept up by school work, and not a few of these cases ceased when school work was stopped.

Mr. JOHN JACKSON communicated a paper on "Ambidexterity: its Advantages." He said that it was strange that for thousands of years mankind had been content to specially train only one hand to the almost entire neglect of the other. He advocated having two right hands, in being strictly bimanous, so that at the earliest possible date a complete scheme of two-handed instruction should be made an integral part of our national education; that as a medium for training the eye and developing the mind hand culture stood alone. He alluded to the importance of manual instruction as

a means of developing latent intelligence in idiots, and instanced Seguin's observations thereon. One-handed education, he claimed, induced more or less atrophy of one side of the brain, one hand became more or less crippled, and one side of the body was more or less enfeebled and stunted. He classified the advantages of ambidexterity under physical, mental, moral, and general. According to Gowers the systematic compulsory use of the right and left hands for all manual occupations, including writing, would, so far as could be judged from present facts, secure an immunity from the grave effects on speech of disease of either side of the brain should such disease occur. In regard to writers' cramp such a method of education would deprive this condition of its terrors. It was also claimed that ambidexterity would do more to prevent bodily deformity than all the elaborate systems of exercises upon which great dependence had been placed, and would tend to correct these deformities when they had been produced. Todd claimed better results for the right hand when the left is worked also than from the right hand working alone in the same space of time in almost any kind of handiwork. In relation to mental advantages he (Mr. Jackson) claimed that it increased the memory. Moral advantages were claimed for the method because it had been shown that immoral habits and tendencies in all their diversified manifestations amongst idiots and imbeciles diminished according as the powers of prehension and intelligent handling developed themselves, and just as the *hand* became more and more the instrument and expression of the mind. Its general advantages were seen in the playing fields, the school-room, the kitchen, the arts and crafts, the learned professions, in every occupation of life, in peace and in war.

At the conclusion of the paper Miss JACKSON gave an interesting demonstration of simultaneous right and left hand writing on the blackboard, similar and dissimilar writings by the two hands being rapidly produced at the word of command.

The meeting then adjourned until the following day, when Dr. GEORGE CARPENTER read a paper on "Alcohol and Children." He said the popular idea amongst the medical profession and the public, that alcohol is not only not injurious to children but is of benefit to them in health as well as disease, is open to grave doubt. Alcoholism is by no means rare amongst children, and alcohol plays a far greater part in the production of disease than has been generally recognised. The effect of parental alcoholism could be subdivided into its action on the sperm or ovum and on the maternal organism. Alcohol, when taken into the stomach, could be demon-

strated in the testicle or ovary within a very few minutes. Masses of statistics had been gathered which demonstrated the production of epilepsy and idiocy and other developmental neuroses in the children of alcoholics. Its sphere of influence had been extended, and it was credited by many observers with the production of organic disease in children of alcoholic parentage together with various congenital malformations, and deformities. Large numbers of statistics had been collected at home and abroad which tended to prove that alcohol is a powerful factor in the production of miscarriages. Deficiency in maternal milk, which is such an important predisposing cause at the root of our infantile mortality, was, according to von Bunge of Bâle, often due to the imbibing of alcohol by the parents. His statistics, drawn from all Europe, show that women with an insufficient supply of milk are usually the daughters of alcoholics. Apart from the direct action of parental alcoholism in the production of disease, the bad moral and physical effects arising in the homes of such children were sufficiently obvious. Another, and a not sufficiently recognised, rôle that alcohol played by its action on the maternal organism was directly through the milk. Alcohol given to a nursing mother did not increase the milk in quantity or quality, and its use for that purpose as advocated in the text-books was of no avail. Alcohol could be traced in the milk soon after its ingestion and for several hours subsequently. Clinically, many cases of infants had been reported in which both acute and chronic alcoholic poisoning was due to the passage of alcohol into the milk, and the possibility of such an occurrence could not be too widely known among the medical profession. In many parts of Europe, especially Normandy, alcohol was given with the idea of stimulating the child's growth. It was popularly believed that there was no danger of a child acquiring a love for alcohol; but this idea was certainly incorrect, as there was a large number of cases of infantile dipsomania on record. Attention was drawn to the indiscriminate employment and large use of alcohol by the medical profession, and it was urged that it should never be used except under the strictest medical supervision. Alcohol should be looked upon as a drug, its dosage accurately estimated, and its effects carefully watched. Case after case had been reported where cerebral complications arising during the course of illnesses in which alcohol had been largely, and perhaps too generously, administered, had been traced to alcoholic poisoning. The treatment of wasting in children by doses of alcohol secondary to undetected cirrhosis of the liver was not unknown. The danger of its continued

administration through convalescence on the termination of the medical attendance was a real one and must be borne in mind. He said it must be understood that the amount of alcohol required to produce baneful effects in children was even in proportion to body weight far less than in adults. This was supported by experiments made by Frick on puppies. These effects, however, were as variable as is notoriously the case in adults; in other words, individual idiosyncrasy was as diverse as is the case with most other drugs. The ingestion of alcohol in repeated doses had led in children to much the same effects as in adults. Thus it was the commonest cause of cirrhosis of the liver in children in spite of a prevalent opinion to the contrary. Alcohol expended its main influence in the child upon the nervous system, and more especially upon the higher nerve-centres. Alcoholic neuritis was thus quite a rarity. Exner asserts that even therapeutic doses of alcohol in healthy school children retards intellectual processes. The outcome of experimental work tends to show that alcohol is a toxic drug even in small quantities, and that there is no scientific justification for its employment in medicine. Any evidence, therefore, in favour of such employment was empiric and rested on a clinical foundation. The opinion was gaining ground that even here the evidence of the good done by the drug was largely fallacious and was based on deceptive observation. There was a fairly complete unanimity amongst workers at the subject on one point, and that was that alcohol never did good in any chronic disease.

The PRESIDENT (Sir George Kekewich) did not think the meeting should separate without fulfilling one duty. They had spent a very delightful time at Folkestone, thanks to many different public bodies and persons, some of whom had received due recognition at the Congress dinner the previous night; but it seemed to him at that time, and it still seemed to him, that among the persons who should have received chief recognition were the Honorary Secretaries of the Congress and of its various sections. In the section over which he presided they were specially indebted to Dr. Percy Lewis and Dr. George Carpenter. They called themselves honorary secretaries, but they occupied a position which was anything but honorary. No one who had not himself undertaken something of the kind could possibly imagine what an enormous amount of work was involved in preparation for a function such as the present undertaking. It was not an affair of a few days: it extended over months. The section had proved a very successful one. He thought that there was a tendency in public opinion and in the newspapers to underrate its importance.

But after all, if there be not sanitary schools and healthy children, the effects of local authorities to improve the conditions under which the people live would be seriously handicapped, if not rendered to a large extent absolutely futile. He proposed a hearty vote of thanks to the Secretaries.

Dr. PERCY LEWIS (Folkestone) said he and his colleague, Dr. Carpenter, were very grateful for the kind way in which the meeting had received the proposition. The thanks of the meeting were due to Dr. Carpenter, the London Secretary, for his classical paper on "Alcohol," which should be printed and widely circulated. Dr. Carpenter had done an enormous amount of work and on temperance principles. He (Dr. Percy Lewis) had been brought up in the brandy school, having been House Physician at King's College Hospital when the Todd tradition still held sway. It was common then to treat typhoid cases with a bottle of brandy a day. Afterwards, at the Hospital for Diseases of the Chest, he became instructed in the temperate way of treating disease. The difference was so marked that he was now in complete agreement with all Dr. Carpenter had told them.

Dr. J. A. MENZIES (Dover) read a paper on "The Influence of Certain Forms of Defective Sight on Education and *Vice Versâ*." He said that up to the present time this important subject had received but scant attention from the education authorities. Whereas far-sighted children experienced difficulty in doing near work, and were consequently liable to become "retarded" scholars, the near-sighted children grew up with an imperfect knowledge of all subjects requiring distant vision, such as studies of Nature, field-life, and many others. Recent statistics showed that quite 50 per cent. of the children in two large Scotch towns required attention for defective sight. He said that there was little doubt but that civilization had brought in its wake defective sight in one form at least, viz. that of myopia or short-sight. Short-sight was unknown among primitive peoples and savage races. According to Koningstein and Schleich, who between them had examined 900 newly-born babies, there was no instance of short-sight amongst them, and it would appear, therefore, that myopia is never congenital. The children of myopes, however, were undoubtedly more apt to acquire myopia than other children. In the infant schools of the London School Board, according to Sayer, the percentage of children with bad sight was as low as $3\frac{1}{2}$ per cent. It increased with age until at the age of eight years 7.8 per cent. had bad sight, and at eleven 11 per cent. had bad sight. Out of 61,676 children examined by eight ophthalmic

surgeons appointed by the School Board for London, whose Report was published in May, 1903, approximately 72 per cent. had normal vision, 28 per cent. approximately had defective sight! The statistics also showed that the children who were backward for their age—the “retarded” children—exhibited a much higher percentage of defect than the precocious children. In the “Report of the Edinburgh School Board” the percentage with defective vision was much the same as in the London Report, being 31 per cent. compared with 28 per cent. In this Report the children with symptoms of errors of refraction were included, and the percentage of defects rose from 31 per cent. to 54 per cent., making the percentage of those who had full normal vision but associated with errors of refraction 23 per cent. If a similar allowance were added to the London Report it brought the total up to 51 per cent. defective. By far the commonest causes of defective sight were due to hypermetropia, myopia, and astigmatism. Hypermetropia was much the commonest of the three varieties, and was always congenital, as was also astigmatism. Hypermetropia often produced symptoms of eye strain, induced headache, and rendered school-work an effort. The disabilities arising in after life from failure to detect this condition in childhood were dwelt upon at length by Dr. Menzies. Myopia, he said, was a condition in school life which required the most urgent attention. Hypermetropia and astigmatic eyes were merely abnormal eyes, but the myopic eye was to be looked upon as a diseased eye. In the severe cases he advocated entirely oral instruction, or at most with the use of the blackboard and large writing only. For ordinary myopia, when short sight was not increasing, the wearing of suitable glasses, the teaching of proper habits in reading and writing, the encouragement of outdoor games, and the discouragement of eye work at home, especially by artificial light, were advocated. Myopia affected probably over 10 per cent. of school children in the towns, and a large majority of them obtained no medical assistance. He believed that much might be done to decrease this high percentage by attention to school hygiene in relation to this subject. The training of teachers to the comprehension of errors of refraction would be of great benefit, and the oculists previously mentioned recommended that in future the teachers should examine the distance vision of all children in their classes, and draw out a list of those with defective sight. He believed that it would be of great advantage if a few lectures on defective eyesight could be arranged for by the school authorities in each district, which would help to quicken the interest of the

teachers in this important subject. He considered the only rational sequence to compulsory education was the appointment of medical officers by the various school authorities, and was the only effective means of dealing with the problem. In most other countries of Europe and in Austria this course had already been taken, and in Brussels such appointments were made as long as twenty-five years ago. School hygiene in relation to eye-work had special reference to illumination of rooms, the type and paper of books, the style of writing, the form of desk and attitude of the children during reading and writing, and also an avoidance of fine work during early school life. Books should be chosen on the principle that paper and ink were cheap, while eyesight was priceless. The old form of sloping writing was objectionable. A suitable desk was that which, in addition to other requirements, prevented the child getting too near its work, viz. less than 12 or 18 inches. He endorsed the advice given to parents in the London School Board Report in reference to dealing with tradespeople who sold spectacles and professed to test eye-sight. Cohn found that many myopic children had been given glasses by opticians in Breslau, and nearly all of them were over-corrected, a very serious matter indeed for the myope.

Dr. WILLIAMS-FREEMAN (Andover) read a paper on "The Differences in Vision between Country Children and Londoners." He narrated how, in 1895, the Education Department requested Mr. Brudenell Carter to investigate the state of vision of London school children. The report was published as a Parliamentary paper in 1896, and, according to Mr. Carter's summarised findings, 34 per cent. of the boys and 45 per cent. of the girls had deficient vision in both eyes. The cause of this high subnormality was chiefly found in the general environment of town children, and there was no evidence to show that children's eyes were "in any way injuriously affected by the conditions of elementary school life." The Education Department being desirous of more information upon the point, investigations in country schools were set on foot. A circular to managers and teachers on the eyesight of scholars in schools in large towns was the result of its deliberations; but as no special Report on the figures for country schools had been drawn up, he (Dr. Williams-Freeman) brought forward the results of his examinations of schools in North-West Hants, which included small towns and villages and rural districts. Of 1442 country children tested 932, or 64·5 per cent., had normal vision in both eyes. Of the 8125 London children examined, 3181, or 39·15 per cent., had normal vision in both eyes. Normal vision in both eyes was found in 543 out of 716 boys, a percentage

of 76 per cent. in the country, as against 44 per cent. in London, and in 389 out of 726 girls, a percentage of 54 per cent., as against 33 per cent. in London. On comparing the amount of vision possessed by the "subnormals" the country children had a great advantage, no less than 68 per cent. of them having vision of $\frac{2}{3}$ or more in both eyes, as against 28 per cent. amongst the Londoners. He found in the course of his investigations amongst normal eyes several cases where the acuteness of vision was increased, $\frac{2}{1}$ being seen, and the teachers reported two or three other instances. One boy had vision of $\frac{6}{5}$. In comparison with Bradford boys and girls the Hampshire girls were about the Bradford standard, but the Hampshire boys were far above it. Recent London School Board returns showed that of 206,121 children of all ages, 25,468 had vision equal to $\frac{2}{6}$ or less, *i. e.* 12.4 per cent. Of the 1442 Hampshire children only 43, *i. e.* just 3 per cent., had vision below $\frac{2}{4}$. The superiority of boys' eyesight over that of girls was well known—it was even more marked amongst the country children than amongst the Londoners. With regard to the amount of vision possessed by the "subnormals," it was curious to find that the boys on the whole where they did fail failed more decidedly than the girls. As there was no reason to believe that there was any congenital tendency to abnormal development of the eye peculiar to the female, it was obvious that the large excess of hypermetropia and myopia, trebled in the former and quintupled in the latter, noted in his cases must be due to the girls' environment during childhood, and any adverse conditions might be expected to be especially active during the years of school life. He dismissed the idea that needlework, lessons of which were of short and infrequent duration, was at the root of this. He imagined the cause must be sought, as Mr. Carter had suggested, in their general out-of-school life—the absence of games requiring accuracy of vision and rural pursuits. He also drew attention to book-reading and needlework as amusements for girls by insufficient light by day and night in the cottages in place of outdoor pursuits. He thought that such injury as school work does to children's eyesight was to be traced to the preparation of lessons at home by artificial and insufficient light rather than to the conditions of the schools themselves. Deterioration of eyesight in cities was a well-established fact, and it would continue to deteriorate with the increase of artificial conditions of life, and he thought that even amongst country children the general standard of eyesight might be improved. He advocated amongst other things that girls should be encouraged in all healthy out-of-door games

and sports where a "good eye" is required, so that the movement which has already resulted in so much physical improvement amongst girls of the richer classes may be extended to the poorer. He also would like to see the appointment of medical officers for schools by the County Councils and other educational authorities.

Dr. PERCY LEWIS (Folkestone) thanked Dr. Menzies and Dr. Williams-Freeman for their very interesting papers, which were as instructive and attention-compelling as any which could be heard at any of the London or other medical societies.

Mr. CHARLES McCORMACK (Bootle) thought that all plans for new schools should be submitted to an ophthalmic surgeon for his advice as to the lighting of the building.

Dr. MENZIES, in his reply, regretted that so little had been done in this country for children with defective eyesight, and that no serious attempt had been made to treat them.

Dr. WILLIAMS-FREEMAN replied to a question by Mr. Councillor Bacon (Poplar), and the work of the section was brought to a successful close by a vote of thanks to the President, which was proposed by Mr. CHARLES JELF, M.A. (Folkestone), and seconded and carried with acclamation. In proposing the vote of thanks Mr. Jelf said that he did so with the greatest pleasure, because he had not only had the opportunity of appreciating his courteous conduct of the discussions, but having Sir George as a visitor in his house, he had had the advantage of listening to his genial arm-chair conversation, and he had stored his mind with much valuable information.

Abstracts from Current Literature.

Medicine.

Case of hæmorrhagic poliomesencephalitis of Wernicke, showing Benedict's inferior syndrome (*Revue Mensuelle des Maladies de l'Enfance*, vol. XXII, p. i, January, 1904).—A. Combe records at length a case of the above, and gives an able exposition of the means of arriving at a diagnosis in allied conditions. The patient, a boy aged 2 years, developed, after a severe attack of influenza, a right hemiparesis with ophthalmoplegia on the opposite side. Some months later choreiform movements appeared in the weak limbs, as did overaction of the left sixth and seventh nerves. The ophthalmoplegia was at first partial and incomplete, but later became total and incomplete. Partial, incomplete weakness of the right third nerve appeared later. In other words, the patient presented, in addition to Weber's syndrome, three additional phenomena—choreiform movements in the weak limbs,

spasm of the left sixth and seventh nerves, these signs pointing to an irritative lesion, and affection of the right third nerve, pointing to an extension of the lesion to the opposite side. The combination of hemiparesis with an opposite infranuclear facial paralysis, which goes under the name of the Milliard-Gubler syndrome—a variety of Nothnagel's syndrome,—pointed to a lesion in the upper half of the pons; the ophthalmoplegia to another lesion higher up in the mesencephalon. After fully discussing the characters and associations of the signs, the author pronounces the lesion to be a mesencephalitis. Benedict recorded in 1889 three cases showing what may be called an alternating hemichorea, the signs being Weber's syndrome, with irregular movements in the paralysed muscles. Four years later Charcot published another case and emphasised the great prognostic difference between Weber's and Benedict's syndrome, the one being due to a paralytic lesion and the other to an irritative one only. In 1900 Gilles de la Tourette published two other cases. The case now under discussion is the first to be recorded showing the combination of Benedict's and Milliard-Gubler syndromes. The author proposes to call such signs the *lower* syndrome of Benedict, in contradistinction to the *upper* syndrome which was the one present in Benedict's original cases. Both syndromes have reference only to the position of the lesion, not to its nature, the superior syndrome occurring when the lesion is in the cerebral peduncle, the inferior when the lesion is in the upper half of the pons.

A. ERNEST JONES.

Benign course of a pneumococcic cerebro-spinal meningitis (*'Revue Mensuelle des Maladies de l'Enfance,'* vol. xxii, p. 20, January, 1904).

B. Auché reminds us that the usual course of such a meningitis as the above, especially when it is of meta-pneumococcic origin, is usually severe, and runs to an early fatal termination. He quotes Concetti as remarking that a meningitis lasting more than three weeks cannot be a pneumococcic one, and, if not tuberculous, is usually due to Weichselbaum's meningococcus. The writer then records fully a case in which meningitis was the sequel to a slight broncho-pneumonia; the course was benign throughout, and, after four or five weeks, ended in complete recovery. Repeated rachidocentesis was resorted to, this being also the means of establishing the diagnosis.

A. ERNEST JONES.

Perforation in typhoid fever (*'Archiv. of Pediatrics,'* March, 1904, p. 195).—**Jopson** reports a case in a boy, aged six years, who was admitted into hospital as a case of peritonitis. Vomiting had begun the day previously. The breathing was almost entirely thoracic. Liver dulness was absent. The abdomen was distended, generally rigid, and tender, especially in the right iliac fossa. The temperature had fallen. On opening the abdomen it was found full of purulent fluid, with a slightly faecal odour. The perforation was in the ileum, about eight inches from the colon. The appendix was normal. Death occurred seventy-two hours later, as a result of the fever and the peritonitis. The perforation was found firmly occluded. The writer points out that perforation is less common in children than in adults, especially in young children, that the symptoms are much the same as in adults, and that the prognosis is rather better.

EDMUND CAUTLEY.

Suppression of urine for seven days from toxic nephritis (*'Medicina Contemporanea,'* 1904, No. 11).—A girl, aged 2 years, took into

her mouth a paper of 15 grains (1 gramme) of sublimate by mistake for calomel. There was no reason to suppose that any was swallowed. Large ulcers formed in the mouth. That day 80 grammes of cloudy urine were passed, with hyaline or granular casts and much renal epithelium. After taking in all 5 litres of milk, on the seventh day urine was passed into the bed; on the eighth 500 grammes, with 3 per cent. of albumen; this decreased and finally disappeared. The general condition was good throughout. There was no fever and hardly any complaint of lumbar pain.

T. P. BEDDOES.

Chronic interstitial nephritis in the young ('*Amer. Journ. Med. Sciences*, June, 1904, p. 1056).—**Hirsh** refers to the reasons of the rarity of this disease in the young, and points out that it is more frequent in females than in males, contrary to what is seen in adults. Heubner collected sixty-five cases from his own practice and hospital records. Ashby and Wright have recorded five, Guthrie seven, Steiner and Neuretter six cases. Possibly some of these are included in Heubner's list. Kidney affections are not uncommon in early life, especially after scarlet fever and other infective diseases. Acute nephritis is not uncommon as a result of gastroenteritis in infants (Epstein and Koplik); may follow varicella (Henoch), vaccination (Perl), pertussis (Mettenheimer), influenza (Freeman), pneumonia (Holt), impetigo (Filia). The chronic affection has been ascribed to congenital syphilis (Sutherland and Walker), and to inheritance (Weigert, Baginsky, Westphal, Arnold). Bright's disease has been noted in four generations by Dickinson: in eighteen members of a family during three generations (Pel), and in eighteen cases in three generations (Romme). Hirsh reports two cases. A boy, aged 15 years, who had had measles at 6 years and varicella at 8 years, came under him for uncontrollable hæmorrhage after tooth extraction. He had had no previous hæmorrhage and there was no history of hæmophilia. For one year he had been ailing, with anorexia, restless nights, and nocturnal micturition. Headaches had come on recently. The heart was enlarged, pulse tension somewhat raised, and the urine, sp. gr. 1012, contained a small amount of albumen, variable and not always present, and a few hyaline and granular casts. Death resulted from dyspnoea and cardiac failure five weeks after admission into hospital. The kidneys showed an advanced stage of chronic interstitial nephritis, with adherent capsule and many cysts, and well-marked arteriosclerosis of the aorta. Atheromatous changes have been noted in very early life—in an eight-months fœtus (Ballantyne), in boys aged 3 to 13 years (Marfan), in a child of 2 years (Sanne). An aortic aneurism has been reported by Sanne in a boy aged 13 years. Hirsh's second case was a girl, aged 18 years, who exhibited at the autopsy hypertrophy of the heart, congestion of the lungs, chronic interstitial nephritis, healed Pott's disease, and congenital narrowness of the aorta and renal arteries. The relationship between congenital narrowness of the aorta and arterial system and primary atrophy of the kidney has been noted by Lancereaux, and by Besançon and Poillon. The writer gives a table of the size and weight, etc., of the kidneys in some recorded cases of chronic interstitial nephritis, and a useful bibliography.

EDMUND CAUTLEY.

Frequent micturition and enuresis in children ('*Jahrbuch für Kinderheilkunde*, vol. VIII, p. 795; '*Revue des Maladies de l'Enfance*, vol. XXII, p. 94, February, 1904).—**O. Reinach** publishes two interesting cases

both of which were manifestly hysterical, and the daughters of hysterical mothers. The first was a girl, aged 2 years, who was affected with polyuria consequent on a terrifying dream. She micturated twenty-five to thirty times in the twenty-four hours, as often in the day as at night, and had no power of resisting the desire. This lasted for two months, but then was cured completely by a single application of painful Faradism. The second case was a girl, aged 10 years, who was similarly cured. A. ERNEST JONES.

Tuberculous peritonitis ('*Amer. Pract. and News*,' April, 1904, p. 225). =Weidner regards tuberculous peritonitis as rarely primary, and usually secondary to disease of some abdominal or distant organ. Of the primary causes he mentions disease of the mesenteric and retro-peritoneal glands, of the tubes and ovaries, of the tonsils and lymphoid tissue of the naso-pharynx, of the bronchial glands, and of the lungs, pleura, bones, joints, etc. The condition is usually lymphogenous, occasionally hæmatogenous. He adopts the usual classification into three varieties. Abscesses may form in the peritoneal cavity and burst externally, especially at the umbilicus. Tuberculin and the agglutination test may be of value in diagnosis. His treatment consists of rest, diet, air, sunlight, climate, general hygiene, and drugs. The diet should contain an excess of proteid food. Of drugs he recommends iron, cod-liver oil, hypophosphites of sodium and calcium; creasote and guaiacol in egg emulsion; ichthyol, benzosol, guajalin, euophen, iodoform, etc. He uses inunctions of euophen or iodoform, in the proportion of 2 drs. to 1 oz. each of *sapo viridis* and vaseline or olive oil, 1 dr. being rubbed into the abdomen daily. Operative treatment is indicated in suitable cases. Reference is made to Sir Richard Thorne Thorne's statement that abdominal tuberculosis in children had increased 20 per cent. This is unfortunate, for it has been shown time after time to be based on erroneous statistics, and yet it is constantly quoted. A full discussion on the subject of tuberculous peritonitis is published in the third volume of the 'Reports of the Society for the Study of Disease in Children,' pp. 54—134, and should be read by all who are interested in the subject. EDMUND CAUTLEY.

Pathology.

A year's experience of lumbar puncture ('*Gazette des Hôpitaux*,' No. 73, June 28, 1904, p. 725).—A. **Chauffard** and L. **Boidin** publish a valuable article giving the results of a series of examinations of the cerebrospinal fluid in 140 patients. Five cubic centimetres were centrifugalised for fifteen minutes, the sediment mixed, and three slides examined. The reaction was considered a positive one when more than five cells were seen per field, an immersion lens being used. The results may be summarised thus: (1) *Tabes*: Of eleven cases lymphocytosis was present in nine. Of the other two the Argyll-Robertson sign was absent in one. In addition a marked lymphocytosis was found in several suspicious cases of *tabes*, thus adding gravity to the prognosis. (2) *General paralysis of the insane*: In nine general paralytics abundant lymphocytosis was invariably found, being twice complicated by a polymorphonuclear leucocytosis. (3) *Argyll Robertson's sign*: The authors confirm the correlation, pointed out by Babinski, Widal and others, between this sign and the meningitic reaction. This reaction was present in fourteen out of the seventeen patients who showed the sign, although their conditions were very diverse. (4) *Tuberculous meningitis*:

In thirteen cases the reaction was constantly present. Polymorphonuclear leucocytes were present in a greater number than the lymphocytes in only two cases. Koch's bacillus was found nine times. In several of the cases the diagnosis was first made by the examination of the fluid. (5) Cerebro-spinal meningitis: The reaction, a polymorpho-nuclear one, was present in every one of three cases. Diplococci were found in large numbers in the only fatal case. (6) Zona: The reaction was present eight out of nine times. The ninth case was one of acute bronchitis with only a slight herpes. (7) Syphilitic hemiplegia: The reaction was present in both of two cases. (8) Disseminated sclerosis: The reaction was absent early in a case, but developed after a couple of months. (9) Negative results were obtained in two cases of tumour cerebri, in three cases of idiopathic epilepsy, in two cases of carbonic oxide intoxication, in one of sunstroke, and in two of facial herpes. (10) The authors lay most stress on the value of the procedure in meningeal hæmorrhages. Blood was withdrawn in every one of four cases of purely meningeal hæmorrhage and of ten cases of cerebro-meningeal hæmorrhage. They attribute both a diagnostic and therapeutic value to its application in such cases. (11) Meningitis of mumps: The reaction was marked in three cases observed of this nature. Headache and slow pulse in mumps should lead at once to a lumbar puncture being made. On the negative side the authors have found the absence of the reaction most valuable in excluding meningitis in such cases as typhoid, pneumonia, etc. The duration of the reaction may be as short as twenty-four hours, as in a case of zona, or as long as eight months, as in a case of meningeal hæmorrhage. The median method of puncture is advocated so as to avoid the formation of a hæmatoma, which in one of the cases was autogenously infected. Vomiting occurred three times out of 223 punctures. No other adverse symptom was ever observed.

A. ERNEST JONES.

Influenzal meningitis ('*Jahrb. f. Kinderheilkunde*, June, 1904).—**I. Jundell** records two cases in one of which the influenza bacillus was isolated during life from the cerebro-spinal fluid. The first case was that of a female infant, aged 8 months, who came under treatment for vomiting and constipation. On the sixth day of the illness, meningeal symptoms developed and a diagnosis of cerebro-spinal meningitis was made. On the sixteenth day a quantity of purulent cerebro-spinal fluid was drawn off by lumbar puncture. Cover-glass preparations revealed the presence of Pfeiffer's influenza bacillus, and the same organism was obtained by culture on blood-agar. A post-mortem examination was not made. The second case was that of an infant aged 1 year, who had been ill since the age of three months. The child, which came under observation for broncho-pneumonia, shortly afterwards developed symptoms of meningitis and died. At the autopsy the greater portion of the surface of the brain was found to be invested with a layer of greenish-yellow fluid exudate. Broncho-pneumonia was present, and, in addition, chronic double otitis media. Film preparations from the meningeal exudate showed typical Pfeiffer's bacilli. Cultures on agar and blood-agar proved negative. The writer considers the first case to have been one of primary influenzal meningitis. In the other case the meningeal lesion was probably secondary to an influenzal broncho-pneumonia.

E. P. BAUMANN.

Clinical researches and considerations on the quantity of chloride of sodium contained in the cerebro-spinal fluid of sick children

(*'Il Morgagni,'* anno xlvii, parte 1, No. 1, p. 38, Janv. 1904; *'Gazette des Hopitaux,'* 1904, p. 220).—**Domenico Crisafi** examined the cerebro-spinal fluid removed during life from nineteen children suffering from various diseases. The quantity taken varied from 12 to 50 or 60 c.c. The quantity of sodium chloride was greatest in cases of broncho-pneumonia, especially in the acute stage; less in those diseases (*e. g.* meningitis) in which the fever is less intense or the course subacute. Increase of sodium chloride was often accompanied by increase of the cerebro-spinal fluid itself, but this was not invariable, and was not constant in the same case, and the relation might even be reversed.

S. H. BOWN.

Therapeutics.

Biological considerations on infant feeding (*'Arch. de Méd. des Enfants,'* 1903, No. 7, p. 385).—**E. Moro** gives the biological reasons why he considers that it will always be impossible, in spite of various artifices, to replace the mother's milk with milk having the same nutritive value and obtained from another species. He recalls the classical experiments of Bordet, who, by injecting milk of one species into the body of another species, obtained from the blood of the latter animal a substance that he called precipitin, which has the power of precipitating the albumins in the milk of the first species. Moro looks upon this precipitin as an antibody such as is only formed when a poison is introduced into the body, and so argues that milk from a foreign species is a poison. Hamburger claims that the albumin of such milk acts as a poison on the intestinal epithelium, so that a bottle-fed baby has to manufacture an antibody in its intestine to neutralise this poison before he can start the work of digestion and absorption. Moro has proved by a series of experiments that the serum of an infant at the breast is more bactericidal than that of an artificially fed infant. Wassermann explains this by assuming that in the artificially fed infant a part of the alexins go to neutralise the albumen of the milk, so that the blood contains less. Moro also finds that there is no digestion leucocytosis in breast-fed infants, and correlates the occurrence of this phenomenon in artificially fed infants with the production of an active immunity against the albumin of the foreign milk. In support of this is the fact that after a time even artificially fed infants show no digestion leucocytosis, which is explained by assuming the production of a true immunisation.

A. ERNEST JONES.

Care of premature infants (*'Amer. Journ. of Obstetrics,'* etc., June, 1904, p. 771).—**Blair** insists on the importance of attention to minutiae, and that all premature infants should at first be treated on the same lines as the most delicate ones. The child, unwashed, should be smeared with warm oil, wrapped in absorbent cotton-wool, and put in an incubator, the temperature of the air being warm and moist, and at 100° F. at first. If the child is restless or its temperature rises above 102° F., the temperature of the incubator must be lowered. A drink of water should be given five to six hours after birth. For resuscitation of the most delicate he recommends suspension with the head downwards, alternate compression and expansion of the chest, alternate hot and cold douching, and injections of strychnine, $\frac{1}{4000}$ gr. per lb. weight. The signs of want of artificial heat are crying, becoming blue and green, and fall of temperature. The gradual cessation of crying is a bad sign, death ensuing in a few hours if nothing is done. The tem-

perature of the child should not be allowed to fall below 99.5° F., unless the child sweats freely. Quiet sleep and crimson colour are indications of well-being. Restlessness and rise of temperature show that the heat is too great. Pallor or bluish-green colour, crying, drawn-up knees, and fall of temperature show that the heat is too low. Cold extremities may be due to too low an incubator temperature, to colic, or to a bad circulation. For food the writer prefers the breast-milk of a woman with a child of one to three months old, diluted at first. If this is not available he uses a milk mixture of soluble proteid 1 per cent., fat 2 per cent., sugar 6 per cent., peptonised for forty minutes and diluted with 6 per cent. sugar solution. Beef peptone or panopeptone may be given in doses of 1 to 5 drops. Food should be given slowly through a medicine-dropper. Asepsis is most important. As stimulants, he advises bathing, which must be done very cautiously. The water should be at 100° F. to 103° F., and the bathing should not last more than three minutes. Other stimulants are whisky and strychnine. Castor oil and paregoric are useful for colic and indigestion. The writer gives very good directions, but does not lay nearly enough stress on the extreme importance of handling premature infants as little as possible.

EDMUND CAUTLEY.

Surgery.

Suprapubic cystotomy for a foreign body (*Société d'Obstet., de Gyn., et de Pédiatrie de Bordeaux, July 28, 1903*; '*Journal de Méd. de Bordeaux*,' 1904, p. 468).—**Rocher** read an account of a girl aged $5\frac{1}{2}$ years who was brought to him with a hair-pin in the bladder. He had several times previously removed such a body from the bladder with Guyon's crochet or by other simple manœuvre. On this occasion, however, all such attempts failed even under chloroform. Suprapubic cystotomy was therefore resorted to, with a successful result. The pin was fixed in the wall transversely.

A. ERNEST JONES.

Loss of cerebrospinal fluid from wound of the dura mater ('*Archivio di Orthopedia*,' No. 2, 1904)—**Buschi**.—A boy of 6, on August 30th, was wounded in the back with a pair of scissors. He fell down and could not rise. As he could not stand and had continued headache advice was sought; he was admitted to hospital on September 4th. He was sensible and readily answered questions. Axillary temperature 36.6° C, pulse 80, full and regular. Complained of frontal headache and inability to stand on account of vertigo. The wound was over the interspace between the sixth and seventh vertebræ, 4 mm. from the middle line, 1 cm. long, with its axis transverse; from it dropped a clear yellow fluid, alkaline, with trace of albumen, no sugar, containing only white corpuscles. September 5th, the evening temperature was 38.5 (101.3° F.), the headache increased, and the patient did not wish to eat. Sleepy, complaining of vertigo on movement; lying with his face on the pillow and head bent back. 6th, was weaker and more sleepy; answered badly; passive movement of the head caused diffuse pain in the front of the neck. Kernig's sign was present. The erect position caused instant vertigo. The superficial reflexes were increased; the deep reflexes, especially the tendo Achilles and triceps brachialis of both sides, were weak. Babinski's sign was present on the right side. It was calculated that the daily loss of fluid was from $17\frac{1}{2}$ to 20 drams—70 to 80 grammes. Food was refused and nutrient enemata used. The patient became worse and was semicomatose. On account of

the constant vertigo and the similarity between the symptoms and those due to lumbar puncture, it was concluded that the symptoms were due to loss of cerebrospinal fluid. Operation under chloroform, a probe was passed to facilitate finding the wound of the dura, which was exposed by resecting the laminae of the sixth and seventh vertebrae. The wound had passed from below upwards, slightly inwards, avoiding bone; clear fluid could be seen issuing from the dura some mm. to the right of the middle line; was the size of the point of a director; it was closed with an intestinal needle and "catgut" by the Lembert sutures; a fine gauze drain was left in contact with the dura; the muscles, aponeurosis, and skin sutured. After the operation (September 7th) the patient lay on his back without trying to turn on his face. The temperature was 38.2° C., pulse 120, small, regular. A fairly quiet night was passed. In the morning (8th) he took coffee and milk; pulse 110, temperature 37.1° C. During the day condition improved; there was not so much headache. Evening temperature 37.8° C. September 9th, ate with appetite; lay on his back or side; no pain in head or wound. Pulse 100; morning temperature 37.2° C., evening 37.5° C. 10th, Kernig's sign remained. When standing up he was fairly steady, without vertigo or headache; the reflexes were as before; Babinski's sign remained on the left; rigidity of the neck almost gone. 11th, the dressing was quite dry; the drain removed. There was steady improvement; appetite good; intellect the same. Kernig's sign disappeared; Babinski's sign detected on the right; no pain in any position; neck not rigid. Sutures removed on the 14th, the wound being healed. Next day walked without help, with a slight spastic gait. This had almost gone when discharged on the 28th, and had quite gone a week later. The author quotes six cases of loss of cerebrospinal fluid not complicated by injury to the cord. The English cases are those collected by T. Holmes ('Med.-Chir. Trans.,' 1882, p. 155), which contains the only case not complicated by injury to bone. Reference is made to Mathieu: 'Les Ponctions Rachidiennes Accidentales.' Masson: Paris, 1902.

T. P. BEDDOES.

Cartilaginous and bony nodules in the tonsils (*Monatschrift f. Ohrenheilkunde*, No. 8, 1903).—**Karl Reitmann** finds that the occurrence of these nodules in the tonsils is by no means uncommon. The cartilaginous bodies or their derivatives are met with either in the tonsil itself or in its immediate neighbourhood. As a rule it will be found that the cartilage is of the hyaline variety, and that it does not present the richly cellular character of embryonic cartilage. Frequently signs of degenerative changes may be noted. The nodules were found by Reitmann always lying free in the connective tissue. Many varieties in shape are presented by the nodules, from round to long, and even Y-shaped. As they have been found in an embryo it may reasonably be supposed that they are derived from the second branchial arch (H. Walsham), but of this no direct proof is to hand. As to whether these probably fetal remnants ever lead on to the formation of enchondromata or osteomata of the tonsil we do not know. Certainly these forms of tonsillar tumour are extremely rare.

DAN MCKENZIE.

Epithelioma of the parotid gland in a child of six years (*Société des Sciences Médicales de Lyon*, December 23, 1903), **Jambon**.—The case is interesting on account of the characters of this malignant new-growth at such an early age. Apart from the clinical appearances the diagnosis of epithelioma was certified by the microscopical examination,

which showed the tumour to be composed of very large cells of an outline so indefinite as to give the impression of a great protoplasmic mass containing nuclei. The general arrangement was in alveoli. The impression obtained from the histological inspection was one of great malignancy. The growth was successfully removed.

DAN MCKENZIE.

Spontaneous dislocation of the hip following on acute childish illness ('*La Clinique Infantile*, February 15, 1904, p. 97).—**Kirmisson**, in his *Leçon Clinique*, at the Hôpital des Enfants Malades, remarked that he only wished to discuss such pathological dislocations as were of sudden occurrence, not those which were the result of long-standing disease (tuberculosis) or such as were due to traumatic or congenital causes. He instanced the case of a girl, who at 12 was seized with a sharp attack of chorea. Up to that age she had been a normal healthy child, born of healthy parents. Her movements were so violent that some muscles of the lower jaw were injured. In the course of the illness she developed an apical murmur; the right knee and left hip became very painful, inflamed, and swollen, and turbid fluid was evacuated. The left limb, moreover, took up a position of adduction and inward rotation, and the femoral head could be felt in the iliac fossa. No attempt was *then* made to reduce the dislocation, as cellulitis appeared in the left thigh. Five months later, however, the child returned to the hospital for the operation; exact measurements were taken; there was a shortening of 5 cm. and other classical signs of dislocation. In discussing the case, Kirmisson said he saw absolutely no grounds for ascribing the dislocation to the chorea proper; moreover that had subsided before the dislocation took place. The child had a suppurating ingrowing toe-nail, and this would be a starting point for the endocarditis (evidenced by the murmur) and other affections. He therefore considered that the real cause was a septic infection, *i. e.* rheumatism. There were, moreover, streptococci present in the fluid withdrawn from the joints, which further proved the infective origin. He quoted many instances of dislocation following infectious fevers, typhoid being the most common cause, and the hip the joint affected, with but few exceptions. The displacement was generally backwards into the iliac fossa. Kirmisson quoted two theories as to the pathogeny: (1) Petit thought it due to a hydrarthrosis, entailing loosening of the ligaments and subsequent operation of the articular surfaces; (2) M. Verneuil attributed the cause to a disturbance of the equilibrium of the hip muscles, the weakened condition of one group involving the over-action of their antagonists. Kirmisson himself thought that the intrinsic cause was the toxin of the infection itself, which caused early erosion of the joint-capsule and bony tissue, as shown in the radiogram of the case in question. The other changes would follow. The *prognosis* he considered distinctly good if no force were used in the reduction. The resistance of the muscles should merely be leisurely overcome by careful consecutive movements of flexion, abduction, and circumduction.

A. T. BARNARD.

Lip-tie ('*Annals of Surgery*, March, 1904, p. 433).—**F. Griffith**, of New York, draws attention to the rare occurrence of a condition of lip-tie, analogous to that of tongue-tie. A fold of mucous membrane extends, in the middle line, between the lips and gums of the upper and lower jaws. These folds are known as the superior and inferior fræna of the lips. He records a well-marked case of the condition in the upper lip of an Italian infant. The treatment is similar to that adopted for the cure of tongue-tie.

EDMUND CAUTLEY.